

Flight, October 8, 1910.

FLIGHT

First Aero Weekly in the World.

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Captain Dickson, who was badly injured by M. Thomas colliding with him in the air at Milan Meeting last week, flying over a camp on Salisbury Plain on his biplane.

THE REAL "PARTING OF THE WAYS."

IN one of the leading London dailies we have come across a paragraph relating to the death of M. Chavez, written by one who, to judge from others of his essays into the realms of motoring and aviation, we take to be a journalist of the old Conservative style, who looks upon his mission in life to be the careful and judicial damnation of anything that is new. The name of the journal is immaterial, and so is that of the writer, for we are not greatly concerned—so far as the personality of paper or writer is concerned—with what is written in this or that newspaper upon subjects which are imperfectly understood of those who conduct them. But when it comes to the diffusion of erroneous doctrine by an influential journal, which may be hurtful to the aviation movement by giving the public false impressions and ideas, then it certainly does concern us.

The paragraph in question says, with perfect truth, that the aeroplane has come to the "parting of the ways," in that all has now been done that is necessary for it in the way of sensational advertisement. Truly, what is now wanted is progressive development along rational practical lines, and the kind of flying that is brought along for the purpose of satisfying a semi-morbid public taste is certainly of no further use, if, indeed, it ever had any use at all. As we have said, we are in agreement with the sentiments so far expressed; but when the writer proceeds to state—as if it were the accepted lesson of recent experiment—that "although the aeroplane may be invaluable in war, on its present lines it has no pleasure or business possibilities in peace," we take leave to dissent emphatically from the writer's dictum. It was just this species of cocksureness, combined with ignorance as to scientific fact, that made so many lay Press writers look ridiculous in the early days of motoring. Not to mention their erstwhile expressions of disgust concerning noise, smell and vibration, it was to them a suicidal idea to trust valuable lives to the reliability of any mechanical steering-gear, and could only be the feat of an athlete to steer a machine at twenty miles an hour between the kerbstones of an ordinary winding highway!

That there is a parting of the ways to which the aeroplane has now come is perfectly true, just as the writer in question has felt; and if he had taken a little more trouble to look around and absorb the true indications of the times, he would have found them reflected to a nicety in the recent decision of the Royal Aero Club to put an end to all unnecessary flights over large towns. He mistakes the enthusiasm of the thousands who have welcomed the advent of the flying machine if he imagines that—with his own blindness—they too only see in it a sensational display that may lead to tragedy. He also misses the spirit in which we and other advocates of engineering progress have given our support to demonstrations calculated to prove to the public that human flight is at length a very real thing. And hence he has entirely missed the point as to the true parting of the ways, which is in reality nothing more nor less than that now the aeronautic industry, having definitely proved to the world that it has an existence—not to mention a brilliant future—must zealously guard itself against being confused with any mere gymnastic displays. To make our meaning clear, it may be confessed with perfect frankness that if a couple of years ago one of the very few successful flying men of that date had contemplated a flight from the suburbs of London over the City, and around St. Paul's,

we should have joined our voice with that of the daily Press in extolling his skill and daring up to the very skies!; whereas now, even though this selfsame feat would probably be witnessed with exultation by as many thousands of interested spectators as then—and certainly could be accomplished with vastly greater certainty—yet we should feel compelled to protest against the unnecessary risk of conducting such a trial above a thickly-populated area, when it might equally well be carried out elsewhere.

This question compels attention not only from the point of view of a critical section of the outside public, but also from that of those who are taking a foremost part in the splendid work that is now being carried on in the interests of the new art and industry. That this is so is evident from the numerous letters that we have recently received from flying men as well as from others, obviously inspired primarily by such accidents as that to poor Chavez last week. Closely wrapped up with the more general question is that as to whether the type of competition for prize money, which has been and still is in vogue, answers its intended useful purpose; or as to whether something considerably more specific as a scientific advance ought not rather to take its place. It has even been suggested to us by some that prizes like that won by Paulhan for the London-Manchester achievement are in reality out of all proportion to the value of the actual achievement; and hence we not only have this aspect put forward, but simultaneously the suggestion by others that no man ought to be tempted to risk his life in this way by the offer of so large a sum. On the one hand, however, we would point out that, as far as the benefits conferred by such prizes as that in question are concerned, it is *not* the individual performance that has to be taken into account. Nobody actually knows, but everyone can form some slight opinion, as to the great number of workers who, but for the offer of so big a prize, would have been unable to pursue their studies through lack of financial support; so that the real value of the prize money must have been vastly greater than any single individual can actually have cognisance of. Then, too, as regards the other contention, it is absurd to suggest that men of the Paulhan stamp would be deterred from attempting such glorious performances, even if the prize were a thousand pounds or even a hundred pounds, or possibly no money at all, instead of being £10,000; so that the mere talk of wealthy folk presuming upon the daring of those who are lacking in money is arrant nonsense, and is a mere excuse for stirring up antagonism against human flight.

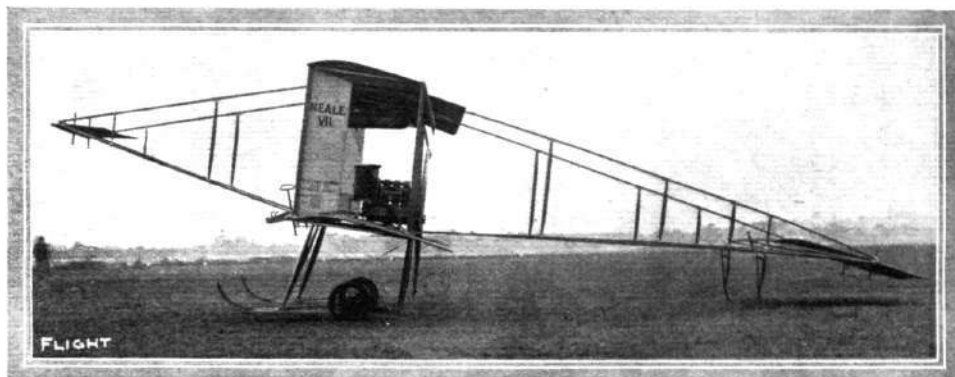
Generally speaking, therefore, let it be recognised that these big prizes which are offered for epoch-making achievements still serve an invaluable purpose, inasmuch as they introduce—indirectly quite as much as directly—the necessary sinews of war for enabling the inventor and the experimenter to keep on with their arduous task. But at the same time let it be equally recognised that we have come to a parting of the ways, where mere sensationalism cannot longer be tolerated, even if it does lend at times a glamour to the progress of the art of flight. And let all those who wish for the welfare of aviation add their protest whenever opportunity arises against such confusion of ideas as is typified by the inclusion in the general Press, under one and the same generic heading, of reports of the doings of aviators with their machines and of some wretched parachute descent at a country fair or at some Bank Holiday display for the gaping masses.

THE NEALE BIPLANE.

A NEW PRINCIPLE OF CONTROL DESIGNED TO AVOID THE WRIGHTS' PATENTS.

THOSE who have paid the merest superficial attention to the principles of modern aeroplane control are aware that lateral stability is maintained either by twisting the wings or by using

satisfactory in their operation, the horizontal balancers were duly abandoned, and the machine now flies with the mechanism for operating them disconnected.

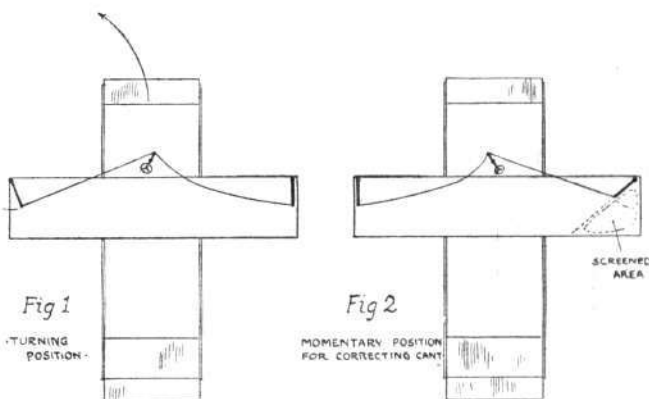


Side view of the Neale biplane.

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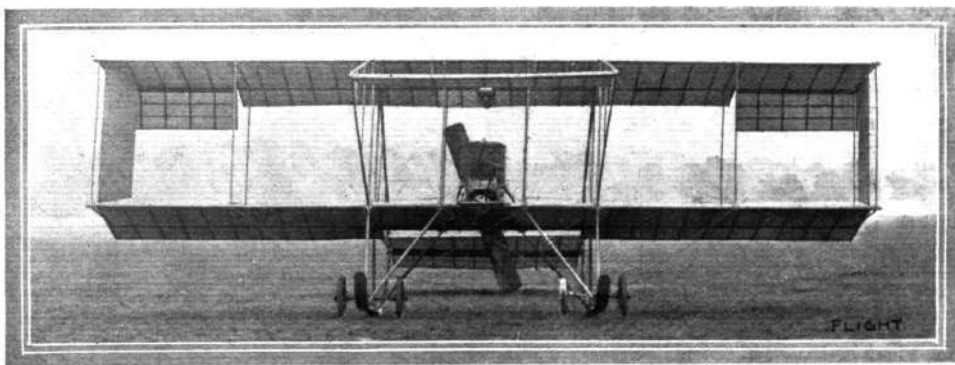
independent horizontal planes (ailerons) as balancers. Those who have interested themselves still more deeply in the subject are probably also aware that the principle of wing warping constitutes one of the great claims in the Wright patent, and that, moreover, the Wright brothers regard machines fitted with any form of horizontal balancers to be infringements of their claim. It should not therefore be difficult for anyone to appreciate the significant importance of a system of control that is fundamentally different to this standard practice of the day.

The Neale biplane, with which, as our readers know, experiments have for a long time been conducted on the Brooklands flying ground, is a machine that certainly does embody a method of control that is, so far as we are aware, quite original, and there is little doubt it constitutes one of the most interesting developments in aeroplane construction that is at present on trial. This machine is steered and balanced by movable vertical planes that are hinged to the outermost forward struts of the main planes, and these vertical planes, in conjunction with the fore and aft elevators, constitute the sole controlling organs. Balancing planes were originally fitted to the trailing edges of the upper main plane as a precaution during the initial stages of experiment; but the vertical planes having been found to be entirely



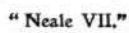
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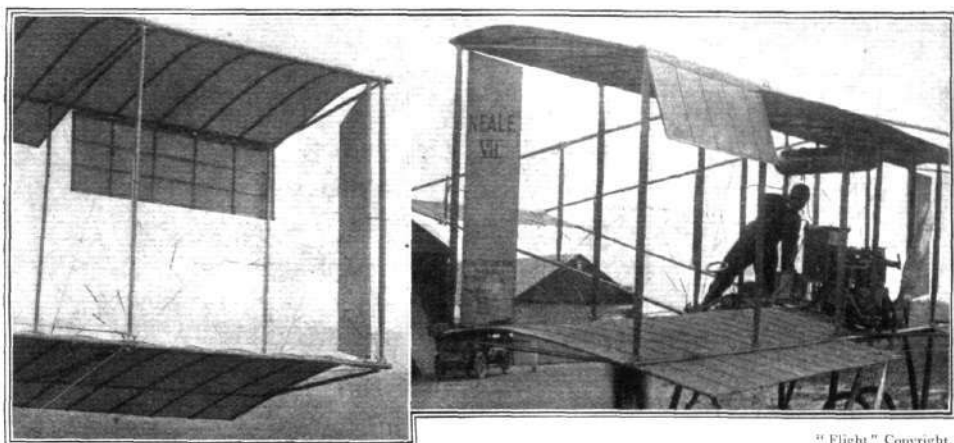
Diagrams illustrating the principle of control on the Neale biplane, Fig. 1 shows a slight deflection of one of the screen rudders for steering. Fig. 2 illustrates the screen put hard over for balancing.



Front view of the Neale biplane.

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Two views of the screen rudders on the Neale biplane. These members are used for steering and lateral control, the horizontal balancers having been entirely discarded.

The Neale biplane never possessed a rear rudder, and this peculiarity is the starting point from which the development of the machine in question should be studied; for it may be quite frankly admitted that the principle of control as it now stands, although something of a basic idea, was actually a discovery resulting from practical experiment with the machine. The inventor's fundamental intention was to design an aeroplane that should be an easier machine to fly across the wind than are the majority of modern aeroplanes, which tend to head up into the breeze by the automatic leverage of the rudder in its capacity as a vertical tail. Early gliders employed fixed vertical tail planes for this very purpose, in order to keep them automatically head-on to the wind without any attention on the part of the pilot; but in a power-driven flyer this particular quality is no longer required, and if evidenced to any marked degree becomes a distinct interference with the control. The original idea out of which the Neale biplane in its present form was evolved may, therefore, be summed up by saying that it was to be a machine without a rear rudder or any sort of vertical tail surface.

The next step was, obviously, to introduce some form of steering apparatus capable of taking the place of a rear rudder, and it was solely for this purpose that the hinged vertical planes were originally placed in the gap between the main planes.

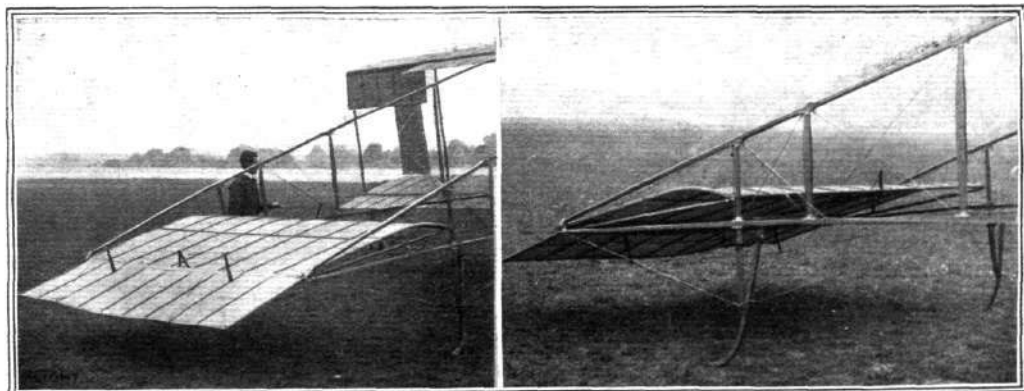
There are two alternative methods of steering an

aeroplane in flight, one being to exercise a lateral pressure by means of a rudder, on the end of a long lever such as an outrigger, while



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Detail view of the wheel and skid chassis on the Neale biplane.



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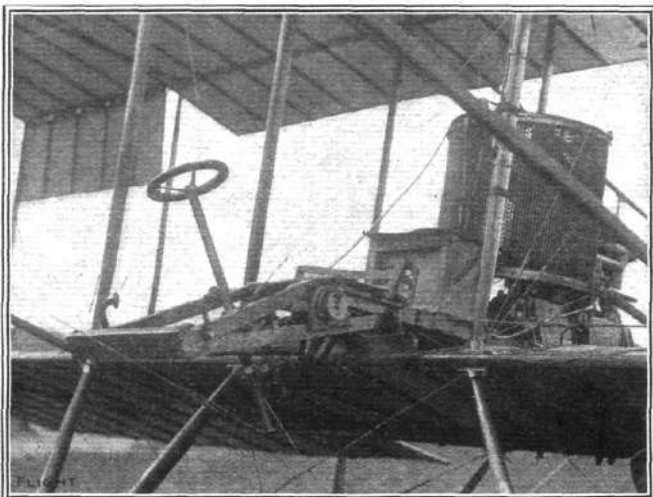
Two views of the tail on the Neale biplane. The trailing portion of the tail forms the rear elevator.

the other is to "put the brake on" at one of the extremities of the main planes. It is the latter system that is employed on the Neale biplane. Any plane set at an angle to the line of flight offers resistance, and will, therefore, serve as a brake; the hinged vertical planes in the gap of the Neale biplane are, therefore, primarily brakes. Normally, they are quite free to adjust themselves edge on to the wind, but if either of them is forced into an oblique position the machine slows up on that side and the other extremity wheels round until the pilot once more allows the deflected plane to hang free. Up to the time of writing, these planes, or screen rudders as we have called them for reasons that will be presently obvious, have had a chord of 1 ft. 8 ins., and it has been found in practice that a deflection of 5° has been sufficient to make the machine turn in its own length.

At first these planes were used only as rudders, but it was found by experience that various other effects could be produced by them, and that, in short, they constituted a complete system of lateral control. If one of the planes was smartly deflected to an angle of about 45°, and then as suddenly released, it was found that the machine would heel over without altering its course, and the action was so sure that it was finally adopted as the sole means of balancing, although up to that time horizontal balancers had been inter-connected with the control lever in case of emergency.

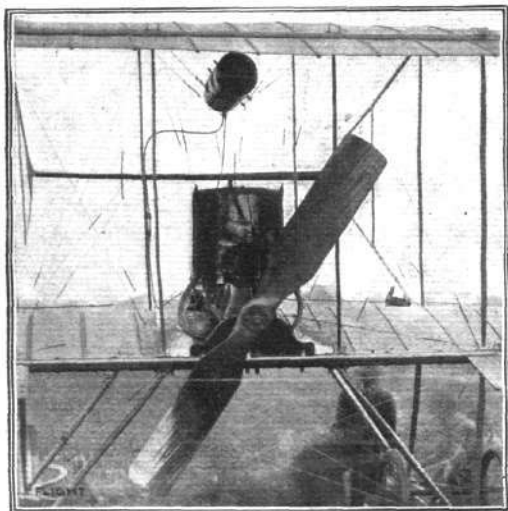
The theory associated with this balancing action is extremely interesting, and is illustrated diagrammatically in one of the accompanying sketches. It is supposed that the sudden deflection of the vertical plane temporarily screens off a very appreciable area of the main plane from the lifting effect of the wind, thus

It would appear, therefore, as if this very simple device has quite a number of important possibilities in connection with aeroplane



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View of the pilot's seat and control mechanism on the Neale biplane. One of the pedals lifts the exhaust-valve of the engine.



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View of the Green engine, propeller, and Lamplough radiator on the Neale biplane.

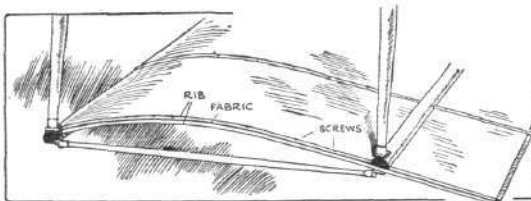
causing the machine to drop on that side. The success of this manoeuvre depends essentially on the rudder being released immediately after it has been deflected, for if it is held in that position air would be drawn in on the other side and the desired effect neutralised, if not reversed. Should a single operation of the screen be insufficient to entirely restore lateral equilibrium, the operation is repeated in quick succession as often as may be necessary, but inasmuch as it appears to be possible to make the machine heel over to about 45° by a single operation of the screen if properly executed, it is not often that any situation should call for a repetition of the action.

There is yet one other interesting feature associated with the use of these screen rudders. If the action of putting the rudder hard over is performed very quickly indeed, which necessitates quite a strong pull on the control lever, the machine has been found to shift bodily sideways through the air without either canting or swerving.

control, and there is no doubt that the further development of the Neale biplane will be watched with the greatest interest in all quarters.

Not unnaturally the features already mentioned overshadow others of a less sensational if nevertheless important character. The Neale biplane itself in its broader characteristics has the appearance of a Farman, and it is mounted on a Farman type wheel and skid chassis. The horizontal tail is a monoplane, and is cambered to carry weight; its trailing portion is hinged and constitutes the rear elevator. This member is interconnected with the front elevator, and is so arranged that its effect is always the superior force. To a certain extent, therefore, these elevators operate automatically, inasmuch as the wind pressure on the rear member serves to adjust the attitude of that in front. The control of the elevators and of the screen rudders is also effected on the Farman principle by a universally-pivoted lever, which in this machine happens to be provided with a wheel, because, in the initial experiment, the rudders were operated by a rotary movement and the horizontal balancers by the sideways action.

The machine is fitted with a 35-h.p. Green engine, and many tests have been made with different propellers of Mr. Neale's own design, until at last one has been constructed of adequate efficiency to give satisfaction with this comparatively low-powered plant. The propeller in question has a diameter of 7 ft. 9 ins., and an apparent pitch represented by the chord angle of 3 ft. 6 ins. The difficulty has been, as it is in all wooden propellers, to obtain an efficient section through the blade with sufficient strength to prevent warping under pressure. Of the other details of construction we have space only to mention one that forms the subject of the sketch below, showing the method of bracing the fore and aft main transverse spars by straight struts that give the requisite rigidity to the framework to allow very light ribs to be used for cambering the planes. The con-



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struction of the planes is also an ingenious method of using a single surface, for each rib consists of two semi-circular sections screwed together with the fabric sandwiched between their flat faces.

FROM THE BRITISH FLYING GROUNDS.

Royal Aero Club Ground, Eastchurch.

THERE was nothing moving here until Thursday last week, when Mr. Grace brought out his Blériot, and during his half hour's flight he gave a good account of himself. Mr. McClean was also out on his "Short" biplane, and made some pretty trips.

On Friday Mr. Grace was again first out on his Blériot monoplane, making a flight of 15 mins. duration just before noon. Mr. McClean was not long after him, and circled the ground some half dozen times in excellent fashion. After lunch Mr. Grace again set out, and after half an hour's flight, during which he passed over Minster and Eastchurch, he planed gracefully to earth. In the meantime Mr. McClean was again busy on his "Short," and after circling the course several times he set off along the coast. Reaching Shellbeach he turned about, and flying over the Swale he was flying splendidly as he again skirted Eastchurch grounds. Arrived at King's Ferry Railway Bridge he was turning towards home when he came down on some bad ground, damaging the tail and skid. This flight was considered one of Mr. McClean's best performances, and it is a great pity this accident occurred to mar the finish.

During the week-end Mr. Jezzi had the ground practically to himself and made a number of flights.

Mr. Colmore left here on Friday for Dover, with his Short biplane, on which he intends crossing the Channel at the first favourable opportunity in competition for the Baron de Forest £4,000 all-British prize.

Brooklands Aerodrome.

WEATHER conditions were ideal flying in the early part of the week, and the little colony was up and doing, taking every advantage of such an opportunity.

On Tuesday Lieut. Maitland, on a Bristol biplane, rose from the ground at too steep an angle, as novices so often do. He switched off his engine, with the result that the machine being unable to glide at the angle, fell almost vertically, smashing the chassis and landing on the lower plane. The damage was slight, considering the possible consequences of such an accident.

Later in the day Mr. Wickham, on the Avis, now fitted with a J.A.P. engine, made several flights to test the engine, with satisfactory results. This is the machine on which he intends to make an attempt for Baron de Forest's cross-Channel prize.

Just before dusk Grahame-White's Blériot was on the ground with a pupil on board. He made several hops, but they were rather abruptly ended by a wheel buckling.

On Wednesday Mr. Keith Davies, flying the Hanriot monoplane fitted with an E.N.V. engine, made successful circuits of the aerodrome, showing that he had very little more to learn as regards the controls. Mr. Davies' was an exceptionally fine performance, considering the short time he has been practising.

Thursday, many machines were about, though very little of importance occurred. Mr. Keith Davies was out on and off most of the day.

Friday saw the Spencer-Stirling machine at work early, making low but steady flights. Lane's Blériot was out for "rolling" practice, piloted by a pupil. Pequet, on the Humber Blériot, flew a circuit, and later on in the evening was aloft for nearly ten minutes.

In the afternoon Mr. Keith Davies, who had been making the most of the calm weather, qualified for his pilot's certificate, describing figure eights, and executing sharp turns with great skill and precision.

The Howard Wright biplane built for Capt. Maitland made some successful flights, piloted by Mr. Watkins. Capt. Maitland, who was down at Brooklands, we were glad to see is making a rapid recovery after his recent smash.

Mr. Spottiswoode is improving, making half-turns on "Avis III."

About 5 p.m. Mr. Graham Gilmour, on his J.A.P.-engined Blériot, executed a record flight for Brooklands, staying in the air for over an hour. Throughout the flight, and he is a pretty flyer, the engine behaved perfectly, and showed no signs of overheating at the finish.

Mr. Macfie, who has been making good flights during the week, has now altered the tail, making it longer, the machine being rendered thereby much more stable.

Late in the evening Blondeau took up a pupil who afterwards made some good flights unattended.

Altogether, on this lovely September evening there were no less than twelve aeroplanes out on the ground at one time "rolling," hopping, and many flying.

Unfortunately, "Neale VII" was absent from the merry throng, owing to an accident last week while Mr. Rippen, one of Mr. Neale's pupils, was completing a circuit. However, the repairs are nearing completion, and this machine, which was flying in very good form, will be out again in a few days.

Until the evening on Saturday, owing to high winds, no machine ventured out. Then a few sallied forth, including Mr. Graham Gilmour's, upon which he carried passengers.

Sunday, needless to say, in consequence of the gale, was a blank day. Owing to high winds there was very little doing until Tuesday evening, October 4th, when several machines were out, Mr. Macfie flying his machine steadily for a couple of circuits. Mr. Gilmour, who took up a passenger on his machine, however, was flying at a bad angle, and nearly claimed acquaintance with the River Wey.

On Wednesday last, in connection with the car race meeting, some very fine flying was witnessed; Mr. Graham Gilmour just beat M. Blondeau by 6½ secs. in the competition for the N. C. Niell Cup and £100 for aggregate distance. Two flights were made, one of 2h. 8m. 37s., and the other of 50 mins. 40 secs. M. Blondeau has 36 mins. 47½ secs. to his credit from last meeting, and added to this 2h. 22m. 25s. There were five entrants during the afternoon, the others being Thomas, on the Hanriot, 10 mins. 54½ secs., Macfie, on his own machine, 7 mins. 15 secs., and Spottiswoode, on the Avis, 4 mins. 42 secs. The afternoon was perfect for flying, the wind only blowing at 3 miles an hour.

New Forest Aviation School, Beaulieu.

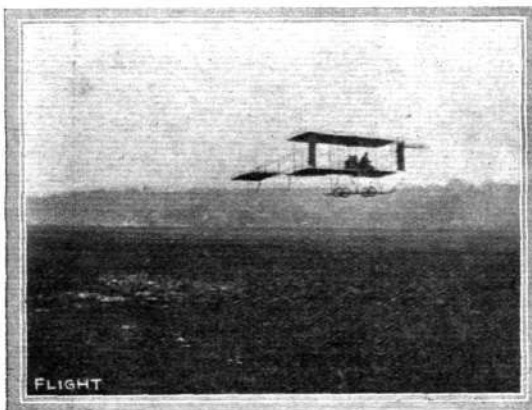
DURING the past week steady progress has been maintained by the pupils, Major Cooke having succeeded in making several short straight flights. On Saturday week he was unfortunate in a landing. Having "turned-up" rather too much, his machine lost impetus from head-resistance, and though he used his rudder and control correctly, omission to accelerate the motor proved fatal, and a sideways fall ensued, which resulted in a broken propeller and wing, though the drop was certainly not more than 10ft.

Mr. Barrington-Kennett and Mr. Aitken have greatly improved at "rolling," and short hops will soon become longer flights. The former had a minor mishap, slightly damaging both blades of his propeller by charging a small mark-flag, which was naturally completely demolished.

Mr. Drexel, after having satisfactorily tested his double-seater alone, took up Capt. Sartorius as passenger. The motor seemed to draw badly, and a descent was necessary on some rough ground. Despite a good landing, the wheels were turned rapidly aside and the heavy machine toppled over, breaking the propeller, damaging a wing, and fracturing a couple of the fuselage longitudinal. The weather has remained brilliantly fine and calm, excepting on Monday, when a 35-mile wind kept all machines inside the hangars.

Increasing numbers of visitors arrive daily to watch the flights, and the attraction afforded seems to have become quite a fashionable way of passing the afternoon.

The principals have announced their intention of presenting a silver cup to the first pupil who gains his pilot aviator's certificate at Beaulieu. At the moment Major Cooke is justly entitled to favouritism for this event.



AT BROOKLANDS.—Mr. Rippen, one of the Neale pupils, making a good flight on "Neale VII" after its new propeller had been fixed, and before the little mishap.

OPENING OF THE BLÉRIOT SCHOOL.



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HENDON AVIATION GROUNDS.—General view of the aeroplane sheds erected for the proprietors, the London Aerodrome Co., as seen from the flying grounds (on left) and from the back. These seven sheds were erected in ten days by Messrs. F. Smith and Co., of Stratford, E.

SATURDAY last, October 1st, was an important day in the calendar of flight, inasmuch as it was the occasion of the opening of Louis Blériot's School on the London Aerodrome Co.'s new flying ground at Hendon. This ground, which was used by Paulhan as a starting point for his London to Manchester flight, has since been acquired by the above-named syndicate, and already some seven or eight sheds have been erected and are in active occupation, those at present installed there being M. Louis Blériot's School and the Aeronautical Syndicate, who constructed the Valkyrie aeroplane that we described last week. The ground itself is not yet finished, in fact it may almost be said that the proprietary company hardly had a chance to get properly to work on it, but so anxious have aviators been to take possession that they had to throw the ground open almost within a couple of days of completing the requisite housing accommodation. A great deal of money is going to be spent on this ground, and as far as we can see from superficial appearances at the moment, it is not only likely to be one of the finest aerodromes in the country, but it has more than a good chance of being the most popular. Already it is within half an hour's ride in a taxicab from the West End, and is not really inconvenient by rail, for it is a quick journey to travel from Baker Street to Willesden Green by the Metropolitan Railway, whence a tram can be taken almost past the gate. If the future extension of the Hampstead tube goes through satisfactorily, there will be a station practically



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The "Valkyrie" takes a trip at the Hendon flying grounds last Saturday.

just outside the grounds, which will bring the aerodrome within a fifteen minutes journey of Charing Cross. We give these particulars in detail, because if there is one thing more than another that seems



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AT THE HENDON AVIATION GROUNDS.—The "free" enclosure, with its tiers of rustic seats, is well patronised.



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Three men of importance at the opening of the Blériot Aviation School at Hendon on Saturday.—Left to right: M. Chereau, the Manager for L. Blériot; Mr. Frank Hedges Butler, the first pupil of the school; and M. Pierre Prier, the chief pilot instructor.

to affect the popularity of a place, it is the question of accessibility from Town, and on this score the Hendon ground is unquestionably unique. If the company owning it are sufficiently enterprising, we should not be in the least surprised to see the place made quite a centre of attraction, for there is a great deal that can be done on a ground of this sort during the periods when flying is impossible that will attract the public to resort there in large numbers. In any case, we will certainly express a devout hope that fairly comfortable accommodation is provided for those who do go to watch flying and find as usual that they have to wait an hour or two.

Whether the Hendon ground has merits may be judged from the mere fact that Blériot selected it as a site for his school, and it may be taken for granted that every effort is going to be made to establish



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M. Pierre Prier, the Blériot instructor, makes his first flight on the Blériot School opening day at Hendon Aerodrome last Saturday.—His start, and, inset, well up in the air.

this school on the soundest possible lines. The function on Saturday was, of course, only of a preliminary nature, but it attracted quite a crowd nevertheless. M. Prier, who has been an instructor for M. Blériot in France, took out a new machine and executed a few simple flights under the handicap of an indifferently running engine. He also gave his first lesson to a pupil, who was none other than that veteran aeronaut Mr. Frank Hedges Butler. The lesson was not exactly exciting either for the pupil or the public, for it merely consisted of an explanation of the movements of the control-lever, the pupil being seated in the pilot's seat and the machine at rest. At any rate, however, we congratulate Mr. Butler in his determination to thus take an active part in the movement that he has always done his best to encourage.

THE HEIGHT RECORD HANDSOMELY BEATEN.

ALTHOUGH one cannot see how any useful purpose can be served by ascending to any greater heights in an aeroplane, the competition for the world's altitude record still continues very keen.

On Saturday it was once more placed to the credit of the Henry Farman machine, Wynmalen, a young Dutch pupil at the Farman school at Mourmelon, succeeding in taking his biplane up to a height of 2,780 metres (9,174 ft.). He left the ground at 6.28 a.m., and attained the above-mentioned height at 8.26. His motor then

stopped owing to the petrol giving out, but Wynmalen without the slightest hitch successfully brought his machine down to earth by a gliding flight, the time occupied in the landing being only 13 mins. It is extremely important to note that the biplane was of the ordinary heavy type as supplied to the French Army, and it had not been lightened in any way.

By way of practice for this exploit, on the 29th ult. Wynmalen went up to a height of 2,425 metres, while on the previous day he went up to 1,500 metres in 23 mins.

AVIATION AT THE NORTHAMPTON INSTITUTE.

Now that dark evenings are approaching and the winter sessions of the various technical colleges commencing, it is important to draw attention to the fare provided for those who seek to take up more seriously the study of the theoretical side of aeronautics. At the Northampton Polytechnic Institute, where the Principal, R. Mullineux Walmsley, D.Sc., is ever to the fore in encouraging enterprise, a special series of lectures on aeronautical engineering has been incorporated in the mechanical engineering department, which is under the charge of Mr. C. E. Larard. The lecturer specially engaged for this purpose is Mr. F. Handley Page, who is already well known to our readers as an aeroplane constructor. Lectures will be given on Fridays at 7.15 p.m., aeronautical drawing will form the subject on Thursday evenings, while laboratory and workshop practice will take place on Mondays. Mathematics applicable to the subject of aeronautics will be taught on Fridays after the lecture. Any subject can be taken separately by a student,

and the fees are extremely moderate, as they range from 5s. per session for non-members.

In addition to these courses another series of special lectures has been arranged to be given at the Northampton Institute under the auspices of the Aeronautical Society of G.B., and the dates and subjects are as follows. Those wishing to attend should apply to the Secretary of the Aeronautical Society, 53, Victoria Street, S.W.

Nov. 2 ...	"The Study of Dynamic Flight," by J. H. Ledebor.
Nov. 16...	"Mathematics of the Aeroplane," by A. E. Berriman.
Nov. 30...	"Propellers," by T. W. K. Clarke.
Jan. 11...	"The Construction and Design of Aeroplane Surfaces and Controls," by H. F. Lloyd.
Jan. 18...	"Motive Power in Aeroplanes," by Capt. A. D. Carden, R.E.
Jan. 25...	"Some Lines of Aeronautical Research," by B. G. Cooper.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Royal Aero Club General Committee.

THE first meeting of the General Committee of the Royal Aero Club was held at 166, Piccadilly, London, W., on Tuesday, October 4th, 1910. There were present:—Mr. John Dunville, in the Chair.

Royal Aero Club.—Mr. Griffith Brewer, Mr. Ernest C. Bucknall, Capt. A. H. W. Grubb, D.S.O., R.E., Col. H. C. L. Holden, R.A., F.R.S., Prof. A. K. Huntington, Mr. J. T. C. Moore-Brabazon, Mr. C. Pollock, Mr. Stanley Spooner.

Bristol and West of England Aero Club.—Mr. A. Alan Jenkins (Honorary Secretary), Mr. P. A. Thompson.

Manchester Aero Club.—Mr. Cedric Lee, Mr. H. V. Roe, Mr. Fred. S. Sells.

Northumberland and Durham Aero Club.—Hon. C. A. Parsons.

H. E. Perrin, Secretary.
Before proceeding with the business of the meeting the Chairman, on behalf of the Royal Aero Club, welcomed the representatives of the Associated Clubs.

Messages of regret for absence were received from Mr. George Reeves, of the Manchester Aero Club, and Mr. G. W. T. Wade, of the East Riding Aero Club.

Conference of the Federation Aeronautique Internationale.
—It was decided that the following suggestions should be submitted at the Conference of the Federation Aeronautique Internationale, which will take place in Paris on October 27th, 28th and 29th, 1910.

1. Universal standard for Aviators' Certificates.
2. Universal standard for Aeronauts' Certificates.
3. Damages to third party and property.
4. Control of prizes.
5. Suppression of International Calendar of Aviation Meetings.

Delegates.—The following delegates were appointed to attend the Conference:—

Royal Aero Club.—Mr. Griffith Brewer, Mr. Ernest C. Bucknall, Mr. John Dunville, Col. H. C. L. Holden, R.A., F.R.S., Mr. F. K. McClean, Mr. J. T. C. Moore-Brabazon, Mr. Mervyn O'Gorman.

Bristol and West of England Aero Club.—Mr. S. Smith.

Manchester Aero Club.—Mr. F. S. Sells.

Northumberland and Durham Aero Club.—One representative.

Scottish Aeronautical Society.—One representative.

A meeting of the delegates will take place in London on Monday, October 17th, 1910.

Committee Meeting.

A Meeting of the Committee was held on Tuesday, the 4th inst., when there were present:—Mr. John Dunville (in the Chair), Mr. Griffith Brewer, Mr. Ernest C. Bucknall, Capt. A. H. W. Grubb, D.S.O., R.E., Col. H. C. L. Holden, R.A., F.R.S., Prof. A. K. Huntington, Mr. J. T. C. Moore-Brabazon, Mr. C. F. Pollock, Mr. Stanley Spooner, and Harold E. Perrin, Secretary.

New Members.—The following new members were elected:—Charles William Bowles, Capt. George W. Dawes, Lt.-Col. A. R. Hoskins, Leonard Simeon.

Aviator's Certificate.—The request of the Aero Club de France to grant an Aviator's Certificate to Mr. Hammond, of New Zealand, was sanctioned.

Gordon-Bennett International Aviation Race.—Mr. W. E. McArdle, of Beaulieu, has been nominated as first reserve to represent the Royal Aero Club in the Gordon-Bennett International Race to be held at Belmont Park, New York, on October 29th, 1910.

Mr. J. Armstrong Drexel is also going to New York to take part in the Eliminating Trials from which the American team will be chosen for the Gordon-Bennett International Race.

Royal Motor Yacht Club.—A telegram of congratulation has been sent to the Royal Motor Yacht Club on the mark of honour which has been conferred upon it by His Majesty the King.

Golf Challenge to Royal Automobile Club.

The many golfing members of the Club will be interested to know that a challenge has been sent to the Royal Automobile Club for a match, six aside on handicap. The challenge has been accepted, and arrangements are being made for the match to take place on a course near London. Members wishing to be included in the team

are requested to communicate with the Secretary, giving their handicap.

Rolls Memorial Fund.

Members who have not yet sent in their contributions to the above Fund are requested to do so as early as possible. By limiting individual subscriptions to the sum of 10s. the Committee hope they will receive the support of all members.

It has been decided that the Memorial shall take the form of a bas-relief plaque, and that any surplus over and above the cost of the Memorial shall be devoted to the establishment of an **Aeronautical Library** at the Royal Aero Club, to be called the "Rolls Memorial Library."

Contributions of books to the "Rolls Memorial Library" will also be greatly appreciated.

A list of subscriptions received up to September 28th was published in the last issue, and the following have since contributed up to October 5th, 1910:—

W. M. Acworth.	Hon. Mrs. Leveson	C. E. Jobling.
Maj.-Gen. J. T.	Gower.	Cedric Lee.
Cummins, C.B.,	D. Graham-Gilmour.	Lt. J. B. Leefe, R.A.
D.S.O.	The Earl of Hard-	A. Ogilvie.
John R. Davies.	wicke.	E. V. Sassoon.
H. de la Corabe.	Arthur Hohler.	T. P. Searight.
Ivor de la Rue.	Prof. A. K. Hunt-	Dr. Edmund Vaudrey
Harry Fragon.	ington.	Pickering Walker.

Baron de Forest £4,000 Prize.

Intending competitors for the above prize are again reminded that it is necessary to give one month's formal notice of entry. In addition to the rules already published, the following special regulations must also be observed:—

a. Competitors must have their machines ready for examination as soon as possible after sending in their entries. In the event of any alteration being made after the examination such alteration must be at once notified to the Secretary.

b. Competitors must, before starting, produce a certificate from the maker certifying that both machine and motor are of British manufacture in accordance with the rules.

c. The complete machine must be examined before the start and the competitor must give a written undertaking that such machine complies with the regulations.

Salved Wreckage.

The attention of members is drawn to the following communication:—

"Naval Reserves, Admiralty, 66, Victoria Street, S.W.
October 3rd, 1910.

"SIR,—I beg to inform you that the remains of what appears to have been an aeroplane have been recovered from the sea by the Trawler "Albion" in Torbay.

"The description of this article is as follows:—

"Aluminium propellers with brass bush, length 36 ins.

"One bar 3 ft. long with cog wheels marked U.P. & M. Company.

"One piece of wood 2 ft. 6 ins. long with 2 iron grips and 4 other grips.

"4 cylinders.

"The whole covered in barnacles.

"The machine is at present in the possession of Mr. — Ledger, Hulsde, Babbacombe Road, Torquay, who purchased it as a curio. It could doubtless be obtained from him, if the owner can be traced.

"I request that you will be good enough to make the contents of this letter known to the members of the Royal Aero Club, and should any member be able to identify it as his property that you will communicate with me accordingly. The local Coast Guard Officers at Torquay are meanwhile making enquiries, as the machine may be claimed by the Receiver of Wrecks.

"I remain, yours faithfully,

(Signed) "VINCENT A. LAWFORD,

"Secretary to the Admiral Commanding
Coast Guard and Reserves.

"The Secretary, Royal Aero Club, 166, Piccadilly."

166, Piccadilly.

HAROLD E. PERRIN,

Secretary.

PROGRESS OF FLIGHT ABOUT THE COUNTRY.

NOTE.—Addresses, temporary or permanent, follow in each case the names of the clubs, where communications of our readers can be addressed direct to the Secretary. We would ask Club Secretaries in future to see that the notes regarding their Clubs reach the Editor of FLIGHT, 44, St. Martin's Lane, London, W.C., by first post Tuesday at latest.)

Aeroplane Building and Flying Soc. (8, MANCHESTER ST., W.).

ARRANGEMENTS have just been concluded with Mr. W. Eccleston by which the Society are to have the use of the Kensal Rise Athletic Ground for flying purposes. As this ground does not show a hill or slope suitable for gliding, it was necessary for the Society to get over the difficulty, and the matter was taken in hand

machine. In the course of a few weeks the Society hopes to demonstrate what can be done on their own hill with their own glider.

Aeronautical Society of G.B. (53, VICTORIA STREET, S.W.).

A GENERAL meeting will be held at the Royal Society of Arts, John Street, Adelphi, at 8 p.m., on Tuesday, October 25th, when



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SCIENTIFIC KITE-FLYING AT WIMBLEDON.—Mr. A. J. Brooke fixing up his "Brookite," and well up.

by the Secretary, who has evolved an inclined wire cable tramway to answer the purpose. This device is now in the hands of Messrs. Piggott Bros., of Bishopsgate, and the idea has developed to such an extent that it looks like giving quite a novel turn to gliding. The inventor, who is applying for a patent, has great hopes of seeing every landowner in England with a portable hill fixed up on the lawn, where the "rising" generation may enjoy the exhilarating swoop through the air that is characteristic of gliding on a good

Mr. W. F. Reid, C.E., F.I.C. (President of the Chemical Society), will deliver a lecture on "The Use of Explosives in Aerial Warfare, with some Remarks on Aerial Gunnery."

A general meeting will also be held at the same place and time on Tuesday, December 6th, when Mr. W. H. Dines, F.R.S. (late President of the Royal Meteorological Society), will deliver a lecture on "The Practical Application of Meteorology to Aeronautics."

Attention is drawn to the course of lectures arranged by the



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SCIENTIFIC KITE-FLYING AT WIMBLEDON.—Sending up a camera on a Gamage kite for photographing the surroundings.



"Flight" Copyright.

SCIENTIFIC KITE-FLYING AT WIMBLEDON.—Some competitors arriving with their kites.

Society to be given at the Northampton Institute, of which particulars will be found on p. 819.

Admission will be by ticket only, and tickets, syllabus of lectures, and full particulars may be obtained from the Secretary of the Aeronautical Society on and after October 15th. This course is free to all students and engineers, not necessarily members of the society.

Informal minor meetings will be held at the Society's offices on the second Friday in October, November, and December, i.e., October 14th, November 11th, and December 9th, at 8.30 p.m.

Kite and Model Aeroplane Assoc. (27, VICTORY RD., WIMBLEDON)

THE Association held its autumn kite-flying competition on Wimbledon Common on Saturday last.

There was a good entry, including competitors from Manchester, Wolverton, Chiswick, Croydon, Wimbledon, and Surbiton, and they were favoured by a light but steady breeze.

Many of the competitors were flying the noted Brookite, and Mr. A. J. Brooke flew one similar to those with which Mr. Marconi has just made a remarkable achievement of wireless telegraphy, proving the feasibility of establishing direct wireless communication between Europe and North America. The Marconi Co. despatched a message from Clifden, Ireland, to Glace Bay, Nova Scotia, direct, over a distance of some 2,000 miles, no relay stations being used.

In addition, Roloplanes, Burma, and box and wing kites were seen in competition.

The contests started at 1.30, and all the competitors reported and were in their positions at that time. The awards made by the judges (Maj. B. Baden-Powell, Messrs. C. Brogden, W. B. Brooke, R. Grimmer, and T. O'B. Hubbard) were:—

	Name.	Address.	Kite.	Area.	Marks.
1	C. W. Hayes	Chiswick...	Brookite	75 sq. ft.	31
2	A. J. Brooke	"	"	60 "	29.7
3	C. K. Scarf	Arundel H. Ae. C.	Box and wing	30 "	26.3
4	W. Jones	Gameage	Roloplane	36 "	25
5	H. W. Browse	Catford	Box and wing	30 "	24

The President, Maj. B. Baden-Powell, presented the prizes, but the first and second winners gave up their prizes, viz., kites given by the makers, Messrs. Brooke and Westhorpe, as they were interested in this firm.

Messrs. C. K. Scarf, W. Jones, and H. W. Browse took the three prizes offered.

This proved to be the best competition yet held by this Association.

The Councillors of the Association gave a display of altitude flying, and Mr. B. S. Varnals, of Gameage's, sent his quadropplane up 24 miles. Mr. C. Brogden, with his Burma, also reached this distance, and the kites were out of sight for three-quarters of an hour.

Mr. W. B. Brooke and Maj. Baden-Powell also took part.

During this display the secretary received a "Northern Star" kite, which had been sent from Scotland, and it proved to be the most novel kite on the field. The design was a star with two fans or propellers. It was only able to go up to about 100 ft., but Mr. Akehurst did not have time to properly adjust it in the few minutes at his disposal.

Manchester Aero Club (Model Section) (9, ALBERT SQUARE).

A LECTURE was given on Saturday last in the Manchester Technical School, Whitworth Street, on "Aerial Navigation," by Mr. J. W. Carr, the hon. sec. of the Model Section.

The lecture was illustrated with lantern slides, showing all the principal machines, the early experimental machines which preceded them, the more successful British and foreign engines, and some interesting slides showing the manufacture of aeroplanes and their parts. The meeting was well attended by the members of the Model Section, and some of them brought friends interested in the work of the club. On Saturday, October 8th, Mr. W. P. Dean, of Urmston, will give a practical lecture on "Model Wing Construction" at the Technical School, at 6.45 p.m.

Paddington and Districts Aero Club (2, EDBROOKE ROAD, W.).

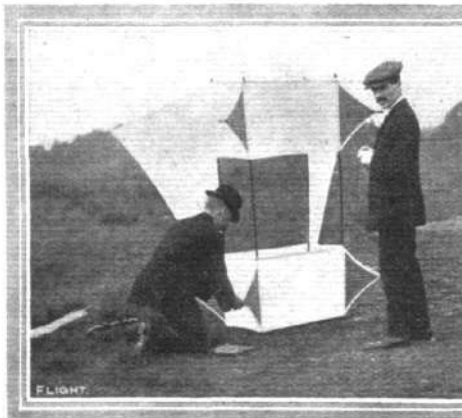
ON Monday, October 3rd, at the club works, Malvern Road, W., a general meeting took place, the chair being taken by J. Hurlin, Esq.

The business of the evening consisted of revising rules and adding new ones. Proposals for man-lifting kites were made, and these kites will be flown at the competition on October 29th.

Entries from model clubs will be received up till October 20th.

New members continue to join from all parts of London and suburbs, which goes to show the enormous interest the club has caused.

The secretary would be pleased to hear from interested readers or from other clubs with a view to competition, or challenges from members against our members.



Mr. Browse prepares his box kite.



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The Gameage winch in use. Winding up the Gameage kite.

SCIENTIFIC KITE-FLYING AT WIMBLEDON.

ROUND-ABOUT FRENCH NOTES.

By OISEAU.

THE last week has been one of the saddest in the history of aviation. Four aviators have died and one is so seriously injured that there is but little hope of his recovery. There are those who from this tale of death would find proofs of the impossibility of the future success of flying. Prejudice and sheer ignorance are the foundation of many phases of so-called public opinion. Each of these deaths, regrettable though they may be, ought to be the means of causing a deeper study of aerial navigation, and ought to encourage others to fly that they may remove the existing dangers. At least that is the feeling here. When Wachter went to his death at Rheims, the other Antoinette pilots, far from refraining from further flying, redoubled their efforts, and in his honour carried away the principal contests of the week. The new science has come to stay, and the sooner its perils are very greatly reduced, the better for all, but all the paper work in the world can do but little. Practical experience is the only sure method of making discoveries, supported, of course, by theoretical investigation. One hour of flight teaches a man more if he be sufficiently observant than years of abstract study. But let aviation be a serious profession to which one's time and thought is entirely devoted, and not the desultory pursuit of adulation-loving young gentlemen with more money than brains, or of the hopeless reprobate to whom death has less terrors than life and to whom money is the sole object, and the advancement of science none at all. The time for amusement will come when knowledge is not purchased at such a deadly cost.

On Saturday the altitude record recently made by the unfortunate George Chavez was beaten by Wynmalen at Mourmelon, where he rose on a Farman biplane (Gnome motor) to a height of 2,780 metres. When at his greatest height his engine stopped, but contrary to the experience of M. Moranc at Trouville some weeks ago, M. Wynmalen succeeded in gliding quite safely and gently to the ground. The attainment of this height is still more praiseworthy when it is remembered that his machine is one of the new heavy biplanes designed specially for military purposes. The size of the main planes is considerably larger than on the standard type, and all parts are heavier and stronger, but otherwise the machine closely resembles the ordinary Farman.

There are three points at the present moment worrying the French designers, the presence of a front elevator, the shape of the tail, and the method of obtaining lateral stability. The front elevator has disappeared from every biplane of note, save the Farman and the Sommer. Mr. Farman designed and built a biplane without a forward elevator many months ago, but after many experiments has reverted to his former type. As to M. Sommer, I know nothing of any experiments he may have made, but for the present his machine retains its original shape. One

can learn much more quickly on an aeroplane fitted with the front elevator than on one without. It seems a more natural action to operate a movable plane in full sight than to work a tail one cannot see. Also, I think, a better descent can be made on such a machine. But beyond that I can see no advantage in the front plane. It adds to the discomfort of flying, and increases head resistance greatly. As to the tail, most constructors have adopted the monoplane type again, with the exception of Mr. Farman, who, after trying many different types, has finally returned to the biplane form. There is an increasing tendency to fit two rudders side by side, this giving a greater grip on the air, and consequently greater ease in making turns. Instances of this double rudder can be found on the Farman, Goupy, Sommer and S.A.F.A. biplanes, and on the Nieuport monoplane. Then M. Voisin places the rudder under the tail plane, and M. Tellier over it. The majority divide the rudder into two parts, above and below the plane, and this I have found most satisfactory myself. The question of lateral stability has naturally settled itself into the use either of wing flexing or ailerons. Wing flexing, while infinitely the better method, has the serious disadvantage of weakening, by constant bending, the spars of the wings. Ailerons when fixed to the trailing edge of the wing exercise considerable drag on the machine when in operation if used the least degree too strongly, so that frequently instead of righting the machine the effect is to bring it to the ground. And as for ailerons fixed between the two main planes, they are the least effective of all in practice, and now very few makers employ them. Such ailerons act simply as a brake, and only restore stability very slowly, and then only at high speeds.

M. Henry Jacques, of whom I wrote a note some weeks back, had an accident some ten days ago through landing a little roughly. He broke tendons in both wrists, and cut his face badly. Owing to this accident I have been unable to make the flights I intended. As he is now quite well again I hope to commence flying his monoplane next week.

A new rotary engine will very shortly be placed on the market by members of the firms of Rosell and Peugeot. One of the experimental motors has been fitted to a monoplane at Issy, but so far nothing has been attempted. Further about this later.

Owing to the serious accident to M. Thomas at the Milan meeting, it has become necessary to select another representative for the team with which France is contesting the Gordon-Bennett Cup. M. Labouchere, who was originally a member of the team, was incapacitated through illness, and now M. Thomas is also out of action. The Antoinette firm is very unfortunate, as now the selection will fall on the pilot of another monoplane, probably M. Simon.



MILAN MEETING.—Some of the aviators. From left to right: MM. Fischer, Gros, Aubrun, Simon, Paulhan, Caillé, and Thomas (who collided with Capt. Dickson).

BRITISH NOTES OF THE WEEK.

Mr. Barnes Back in London.

OUR readers will hear with pleasure that Mr. Barnes, who met with the accident at the Folkestone meeting, has so far recovered from his injuries as to be able to travel by motor car to London. Except for the fact that his arm is still in a sling, Mr. Barnes reports himself fit and well, and hopes to be flying again very shortly.

Two Long Flights by Mr. Cody.

THE last day of September saw two splendid flights made by Mr. Cody at Farnborough on his new biplane. Starting at half past three in the afternoon, Mr. Cody flew steadily over the country round about Farnborough for an hour and a quarter. Just before 6 o'clock, Mr. Cody was up once more and made a second flight of 50 minutes.

It is interesting to note that during the first week of September Mr. Cody flew for 113 miles, while during the third week of that month his aggregate distance was 126 miles, and during September he also made nine flights with passengers.

Aviation Corps for British Army.

FOLLOWING on the announcement that Major Sir A. Bannerman had been appointed to succeed Col. Capper at the Balloon Factory at Farnborough, an official notice which we reproduce below, has been issued by the War Office. From this it will be seen that the British military authorities have at last determined to give effectual help for organising a corps of flyers for service with the Army. The official document reads as follows:—

"With a view to meeting Army requirements consequent on recent developments in aerial science it has been decided to enlarge the scope of the work hitherto carried out at the balloon school at Farnborough by affording opportunities for aeroplaning as well as by developing the training in the employment of dirigibles more fully than has hitherto been the case.

"The object to be kept in view will be to create a body of expert airmen, both officers and other ranks, from which units capable of acting with troops operating in the field can be drawn.

"Maj. Sir A. Bannerman, Bart., Royal Engineers, will be at the head of the new organisation, having been selected to succeed Col. J. E. Capper, C.B., whose tenure of appointment as Commandant of the Balloon School expires on October 7th.

"The officers who will form part of the reconstituted unit will not necessarily belong to the Corps of Royal Engineers. They will be selected from any branch of the Army, provided they show aptitude for aerial work. Details of establishments and organisation will be published in due course in Army Orders."

It is understood that Col. Capper, who has done such splendid and unselfish work for the "Balloon" Department, will be posted to an Engineer command on the South Coast.



Mr. Wickham, who is flying the Channel in connection with the De Forest £4,000 prize, at the wheel of his Avis monoplane.

M. Armand Dufaix in London.

THE Swiss aviator and constructor of the Dufaix aeroplane, who recently flew over Lake Geneva, is due in London on a visit. Any of our readers interested in this type of machine wishing to communicate with M. Dufaix should address their communications c/o Motosacoche, Ltd., 65, Holborn Viaduct, E.C.

Valkyrie Aeroplane.

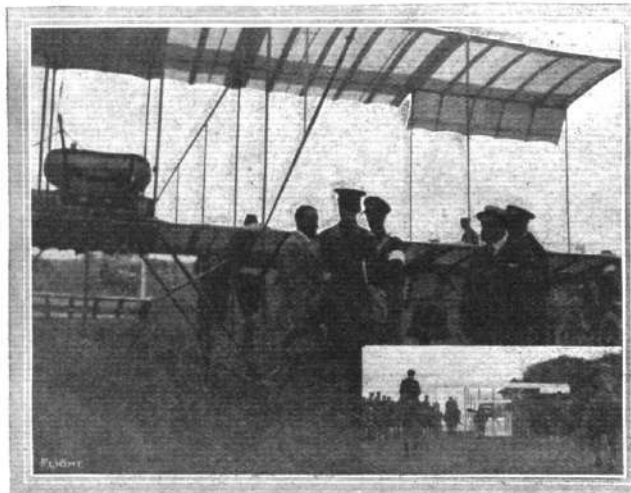
A MISPRINT in the text of our description of the Valkyrie aeroplane last week stated that the supporting surface was over 140 sq. ft. This should, of course, have been over 240 sq. ft., as shown by the figures on the full page drawing.

Further Wireless Experiments with Aeroplanes.

CONTINUING the series of tests to which we referred in our last issue, Mr. Robert Loraine visited Salisbury Plain on the 30th ult., and on his aeroplane succeeded in maintaining communication with the ground station for a distance of over a mile. The experiments are to be continued by Mr. Thorne-Baker, the inventor of the wireless apparatus, who has been promised assistance by the Marconi Co., and it is hoped that shortly it will be possible to maintain communication with an aeroplane for a distance of 20 or perhaps even 50 miles.

The Almost Impossible Achieved.

PROBABLY, until flight became an established fact, nothing short of an earthquake could ever have been expected to merit the slightest notice during the progress of a football match in the Midlands. But flying has achieved what nothing else in this world could have done, and thereby the hallmark of supremacy has been affixed to the sport accordingly. Whilst a football match was in progress on Friday last week at the Notts County Club with Bristol City the episode of M. Paul de Lesseps losing his way when flying from Lichfield to Burton culminated in the aviator's descent in Colwick Park, Nottingham. It may seem incredible, but facts are facts, and must be faced with courage. The game was stopped, whilst spectators, players, referee and linesmen gazed at the spectacle. After this the Millennium.



Capt. Dickson, at the British Army manoeuvres, with his British-built "Bristol" biplane, in consultation with some of the officers. Inset below is a general view of the "Bristol" machine in charge of the cavalry.

GOOD FLYING AT BURTON.

QUITE a lot of flying was seen at Burton on Wednesday of last week, the various aviators making eleven flights in all. Of these four were to the credit of Beau, who was using Mdle. Dutrieu's machine, his total time in the air being a little over a quarter of an hour, while the fair owner of the machine also made two flights, in both of which she was accompanied by Beau. The latter on three of his four flights was also accompanied by a passenger. Ladougue made two short trips, in one of which he was accompanied by his wife. The longest trip of the day was made by Mamet, who, in the course of a flight which lasted 37 mins. 55 secs., was flying across country, and the next best flight to this from the point of view of duration being De Lesseps' 11½ miles in 13 mins. 44½ secs., during which he rose to a height of 3,000 ft. Splendid weather prevailed, and the large crowd which assembled on the aerodrome had plenty to interest them. Thursday saw Mamet and De Lesseps indulging in cross-country excursions to Lichfield, where they circled the Cathedral. Mamet made the round trip of 32 miles in a little over 36 mins., but De Lesseps, who started later, lost his bearings after he had doubled the Cathedral and landed close to Lichfield. At the aerodrome itself there was a good deal to be seen during the afternoon, when the only smash recorded during the meeting took place. Bruneau de Laborie having got his machine into going order, was making his first flight, when in turning too sharply one of the planes touched the ground and brought the machine down with a crash. Ladougue indulged in his usual couple of 5-minute trips; Beau made three flights aggregating 18 mins., while Mdle. Dutrieu carried a passenger for 3 mins. 12½ secs. On Friday, De Lesseps flew back from Lichfield to Burton, but instead of coming down he flew on, and once again lost himself, until on coming down he found he was in the grounds of Colwick Hall, Nottingham, after a flight of 35 miles. Beau was very busy, and during the afternoon made seven short trips, four of them with passengers, during some of which he was at a very good height, once getting up to 1,200 ft. His total time in the air was 37 mins., but his first flight was a lengthy one of 19 mins. Ladougue was out twice, once carrying a passenger, while Mamet during the evening was seen at a height of 3,000 ft., and passed over Stretton and Horninglow. He landed safely after a flight of 27 mins. 54½ secs. Mdle. Dutrieu made a fine flight, accompanied by a passenger, for 7 mins. 14½ secs. Saturday, the closing day, was notable for a flight of 39 mins. 34 secs. by Beau, while Ladougue also made a trip of 38 mins. 27½ secs. Altogether Beau made seven flights during the afternoon, five of them with passengers. Ladougue was out three times, Mamet twice, and Mdle. Dutrieu once, while Paul de Lesseps successfully made the return journey from Nottingham to Burton. From a financial point of view it is understood that the meeting has been a great success. Great crowds flocked to the aerodrome to see the flying, more than ordinary interest being aroused in the achievements.

The awards, which were given on general merit rather than for specific performances, were announced as follows:—

Marquis of Anglesey's Cup for flight from Burton to Lichfield: Mamet, Blériot monoplane.



M. Mamet, who has been making such good flights at Doncaster and Burton.

Town Cup for merit in long-distance flying: Ladougue, Goupy biplane.

Bass Cup for greatest altitude: Lesseps, Blériot monoplane.

Mayoress's Cup for passenger carrying: Beau, Farman biplane.

Lady Meynell's Trophy for a lady flyer: Mdle. Dutrieu, Farman biplane.

There was flying on every one of the five days over which the meeting extended, and the proceedings closed with a dinner, given by the Mayor.

AIRSHIP NEWS.

H.M.S. "Hermione" to Assist "Airship No. 1."

AFTER completing refitting and adjusting compasses, H.M.S. "Hermione" left Portsmouth on the 29th ult., for Barrow for special service in connection with the naval airship which is being built there by Messrs. Vickers Sons and Maxim.

The Willows Cross-Channel Airship.

ALTHOUGH work has only been in progress on the new Willows dirigible for about a month, it is now practically completed, and Mr. Willows hopes very shortly to be able to start on his voyage to Paris. The length of the new envelope is 120 ft., and its greatest diameter 23 ft., the cubic capacity being 32,000 ft. The car will be the same as that of "Willows 2," with the exception that it has been altered and strengthened to suit the increased length of envelope, and to carry a 50-h.p. engine. It will thus be seen that the airship is now similar in dimensions to the Army dirigible, "Beta." Mr. Willows is making an appeal to the citizens of Cardiff to assist him in defraying the cost of this new airship, which he proposes to name either "Cambria" or "City of Cardiff." Should he succeed in making the double cross-Channel trip from London to Paris and back again Mr. Willows proposes that his next effort will be to return to Cardiff.

Long Flight by Italian Military Airship.

THE most severe test to which the Italian military airships have been subjected was commenced on the 29th ult., when "No. 2" left Bracciano, near Rome, on a 230-mile journey to Venice. The first stop was at Arezzo, about 90 miles from the starting point, one of the stays connecting the car to the envelope apparently having broken and becoming entangled with the propeller, smashing it. Repairs were quickly effected, and late in the day the airship once more ascended and crossed the Apennines above the Via Magio Pass. To accomplish this an altitude of 2,000 metres had to be attained, and this meant releasing a large quantity of ballast and the jettison of some of the petrol. A descent was necessary at midday on Friday at St. Arcangelo de Romagna, where the airship was anchored for the rest of the day. On Saturday morning the dirigible was once more on its way, but towards evening a thick fog compelled a descent at Porto Caleri at the mouth of the Po. On Sunday morning a fresh start was made, and within an hour the airship was cruising over Venice, shortly afterwards being safely berthed in her shed. This airship is the latest of the military dirigibles, and is slightly larger than the two which have preceded it, the envelope being 260 ft. in length.

MR. HARRY G. FERGUSON STEADILY ADVANCES.



Mr. H. G. Ferguson and his monoplane, with a lady passenger, the first to be carried in Ireland.

ALTHOUGH Mr. Ferguson does not claim to have made World's record performances in Ireland, his steady application and work are bringing their natural rewards, and many good flights are resulting. His chief flying ground has been at Magilligan Point (co. Derry), where he has been out practically every day. Recently he indulged in many graceful manoeuvres in the air on his monoplane, his daily aggregate distance getting up to about 10 miles—some individual trips coming out at 2 miles. He is becoming very adept at controlling his machine, once or twice having encountered very gusty weather—and gained good experience accordingly. Passenger

carrying he also indulges in, and as he took up a lady passenger with him prior to the Leopardstown meeting, he is justly entitled to the record of having achieved the first passenger flight in Ireland. Some interesting snapshots of Mr. Ferguson in flight, &c., appear this week. His methods are to always get right up to about 40 ft., and until his engine, which is not nearly powerful enough, gets "tired," he keeps the air, and then comes down. We wish Mr. Ferguson further successes in his helpful work in Ireland.

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A Long Cross-Country Flight by Brookins.

WITH the object of trying to win a prize of £2,000 offered by the Chicago *Record Herald* for a flight from Chicago to Springfield, Walter Brookins on Friday afternoon of last week started off from Chicago and succeeded in making the longest cross-country point-to-point flight yet accomplished in America. He made two stops during the journey, the first at Gilman to replenish his oil supply, and the second soon after passing Mount Pulaski. About 30,000 people had gathered at the Springfield Race Track, and gave Brookins an enthusiastic greeting when he alighted. He said that he had to fight a head wind practically all the way, but in spite of this maintained an average speed of 33 m.p.h.

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PIONEERS.

In Memoriam.

REGRET not! Grieve not for the call that bade thy comrades leave their unfinished task,
And, hand-in-hand, with stately, silent Death,
Traverse the unknown road into the far "Beyond."
Talk not of "wasted lives" and "labour lost,"
Just as the crown of fair success was all but resting on their brows.
Say not: "These cruel jests of Fate are hard to understand!"
Pause, and reflect, and note, and ye shall see
How 'tis the wisest and the best receive this call to higher Spheres.
It needs must be; for Earth is finite, and they could not get beyond its limitations.

Now are they free, and see in broader vision a hundredfold more clearly

The wants and needs of all their fellow-workers on this Plane,
And do anon return, to whisper to their comrades toiling here
The very things they fain would know to perfect and complete their work.

Call them not "Martyrs to the Cause of Science."

They are Pioneers! honoured! promoted!

Called to explore the boundless realms of Wisdom yet unknown to man.

Wish them "God-speed!" and work, and watch, and wait,
And ye shall be inspired and helped to nobler, greater works,
By promptings from thy brethren on the "Other Side,"

Themselves being taught and guided by Wisdom from the "All-Wise."

Streatham Park.

JOSEPHINE CATTERMOLLE.



FLYING IN IRELAND.—Mr. H. G. Ferguson at Lough Foyle. On the left just away for a flight over the water, and on the right a good start.

FOREIGN AVIATION NEWS.

French Cruiser to be Adapted for Aeroplane Work.

FOLLOWING up the announcement that the French Naval Minister had ordered several aeroplanes comes the information that he has given orders for the cruiser "Foudre" to be fitted up as an auxiliary to marine aviation. A platform 125 ft. in length is to be erected on the deck of the warship to enable aeroplanes to start while at sea, and also experiments will be made to test the possibilities of landing on such a platform.

Further Success with the Train Monoplane.

LAST week-end saw two splendid flights made by the Train monoplane piloted by its designer. On the 1st inst. it was flying for an hour and a half at an altitude of between 200 and 300 metres, while an almost similar flight was made on the following day.

Martinet Flying Across Country.

LEAVING Dijon at a quarter to five on the 28th ult., Martinet arrived at Nuits St. Georges, where he landed at ten minutes past five. After partaking of "punch" with MM. Faiveray, Vevceley, and Morin, he ascended again at a quarter to six, and at three minutes past the hour landed on the military parade ground at Beaune, where he was received by the Corporation.

Morane Tries for the Michelin Grand Prix.

FRESH from his triumphs in Spain, Morane, after spending a few days at Etampes testing a new two-seated Blériot fitted with a 100-h.p. Gnome engine, flew over to Issy to try for the Michelin Grand Prix of £4,000. This calls, as our readers will remember, for a flight from Paris to Clermont-Ferrand over the Puy-de-Dôme, the machine carrying two passengers throughout. He made his attempt on Wednesday, and it ended in disaster. He left Issy all right, but at Boissy St. Léger the machine fell. Morane had both his legs broken, and his brother, who was accompanying him, sustained a fractured skull.

Sommer Tries a Machine with Two Motors.

IN the presence of several of his friends, M. Sommer, on the 27th ult., made a series of short flights on a machine of his own make, but distinguished by the fact that it was fitted with two motors.

200 Miles in a Day.

A MAGNIFICENT performance was made by Lieut. Bellenger on the 29th ult., when, rising from the parade ground at Vincennes, he first paid a visit to Sissone, where, at the request of the military authorities, he inspected a ground which it had been suggested was suitable for aviation. Having completed this duty, he set out for Mourmelon, where he spent the afternoon with his *compagnons*. Towards evening he mounted his Blériot once again, and heading for the French capital, reached Bry-sur-Marne at dusk, where he made a satisfactory landing. On reporting himself at Vincennes barracks he was informed that during the day he had been promoted to captain, and was warmly complimented by his fellow-officers, and at a banquet during the evening the Minister of War publicly praised his achievements.

A New R.E.P. Pilot.

ON the 27th ult. Laurens easily made the three necessary flights at Buc to qualify for a pilot's certificate. His mount was one of the new R.E.P. monoplanes.

Long Flights by Maurice Farman Pupils.

TWO splendid journeys were made by military pupils at the Maurice Farman school at Buc on the 27th ult. Lieut. Binda covered about 100 kiloms. in an hour and a quarter, during which he passed over Buc, La Minière, Guyancourt, Chateaufort, Gif, and Saclay, his altitude being about 100 metres. During the time he was in the air Lieut. Cheutin also went up, and was flying over the same district for three quarters of an hour.

The "G.B." Blériot en route to America.

ON Saturday last when the "Savoie" left Havre she had on board Mons. Alfred Leblanc and his 100-h.p. Blériot monoplane, with which he will try to bring back the Gordon-Bennett Trophy to France. No information has been divulged as to the actual speed attained during the trials at Etampes, but all who have seen the machine agree that it is exceptionally fast. The motive power is two 50-h.p. Gnome engines coupled together. Besides appearing for France in the Gordon-Bennett aviation contest Mons. Leblanc will also take part in the Gordon-Bennett balloon race.

Mr. Chanute Returns to America.

HAVING derived considerable benefit from his stay on the Continent, Mr. Chanute on Saturday travelled to Havre on his way back to America. It is hoped that his six months' stay on this side of the "Herring pond" will have so benefited his health that the distinguished scientist may be spared for many years yet, and that his help may be available in the great strides which are bound to take place within the next few years.

Mr. Moisant also Goes Home.

MONS. LEBLANC and his staff of assistants were not the only passengers on the "Savoie" who are actively interested in aviation, as Mr. Moisant also returned home on that vessel in order to take part in some of the American flying meetings.

Trials with "G.B." Antoinettes.

DURING the end of last week Mr. Latham was very busy at Mourmelon putting the Antoinette machines, which have been built for the Gordon-Bennett competition, through their paces. These monoplanes are fitted with 16-cyl. Antoinette motors rated at 100-h.p., and in the course of a 35 min. flight on Monday Latham was said to have attained a speed of 112 kiloms. an hour. Mr. Latham in previous trials has got up to a speed of 110 k.p.h., and in order to test the machines thoroughly he intended to make a flight from Paris to Brussels, but this idea fell through owing to lack of opportunity.

A Two-Seated Blériot at Etampes.

AMONG the pupils at the Blériot School at Etampes, Depireux has been securing very good results with his two-seated Blériot monoplane. On Saturday he had it out and was flying for over an hour across country, while on the previous day, after making a couple of flights of 20 minutes each, he flew for an hour over a circuit from Etampes to Mon-desir, Monnerville, Angerville, and back.

Trials with a New Voisin.

SUSPENDING his experiments with a two-seated Voisin machine at Issy for a time, Colliex was at Mourmelon on Sunday testing a new Voisin biplane, the chief characteristic of which is that it has no elevator.

Count Malynski Flies Across Country.

LEAVING Etampes on his Henry Farman machine on the 27th ult., Count Malynski reached Chateaudun an hour and six minutes later, after landing *en route* at Orleans. The next morning the Count was up early, and successfully made the journey to Chartres, where the wind caused him to spend the rest of the day. The following morning he made another attempt to get back to the starting place, but only managed as far as Auneau, where he was obliged to land. A little while after he made a fresh attempt to start, but was not successful in getting away.

Another Meeting at Brussels.

IT is reported from Brussels that a proposal is on foot to organise a flying fortnight at the Belgian capital during the last fortnight of this month, at which the programme is to be somewhat sensational.

Trying to Cross the Rockies.

THE fascination of traversing mountains in aeroplanes has spread to America, and according to a cable from New York, Mars, on his Curtiss biplane, attempted to cross the Rocky Mountains on Monday last. He rose to a height of 7,000 ft., but his machine got out of control in the Elliston Pass and fell. The machine was smashed, but fortunately the aviator escaped serious injury.

Germany and "The New Arm."

By way of corroborating "Oiseau's" recent hint as to the aeroplane work in hand by the German Army, Capt. von Pustau, a well-known naval aerial authority, in the Berlin *Tagliche Rundschau*, in the course of an article upon the development of "the fourth arm" in the Armies and Navies of the world, the German Ministry of War has during the past summer taken, with the utmost secrecy, the initial steps for the establishment and training of a regular corps of military airmen. Four officers have already qualified as pilots, three others have been detailed to follow suit, and numerous other Army officers are qualifying by private instruction. The coming winter, he concludes, is certain to witness unprecedented activity in the training of airmen for the Imperial Army. A chief engineer of the Navy is also qualifying for duty as an air-scout.

German Military Flyers at Johannisthal.

USING a German-built Wright biplane, Lieut. Mente, on the 29th ult., first rose to a height of 100 metres, and then leaving the aerodrome flew afield over Rudow, Bohndorf, Eichwalde, and Schmoekwitz, the lakes Zeddin and Muggel. He was up for a period of 42 mins., during which he covered a distance of about 40 kiloms., mostly at a height of 300 metres.

Two Fatal Accidents in Germany.

LAST week-end saw two German aviators added to the list of those who have lost their life while pursuing the new sport. The first occurred at Mulhausen, where Plochmann fell from a height of 150 ft. and died a few hours later in the hospital without recovering consciousness. No explanation is forthcoming as to the cause of the accident, the biplane being smashed by its fall. The second accident occurred at Welle, a short distance from Metz. Haas, the victim, who was competing on a German Wright biplane, had made a good start from Metz when his motor suddenly stopped and the machine fell from a height of about 500 ft., the aviator being killed instantly.

Treves to Metz Cross-Country Flight.

UNDER the auspices of the Imperial Aero Club of Germany a competition was organised from Treves to Metz, commencing on the 27th, when Jeannin completed the course of 105 kiloms. in 1 hr. 58 mins. He followed the line of the Moselle Valley, and kept at a height of about 450 metres. On arrival at Metz he made a second flight over the town, accompanied by a passenger, of 26 mins. Thelen and Engelhardt also went up at Treves, but as their motors were not pulling well, decided to postpone their start. On the following day Thelen set out from Treves, but after flying for an hour he was compelled to land at Thionville. Capt. Engelhardt also made two attempts to start, but only to return again to Treves. On Friday Thelen made a fresh try, and this time a successful try, and reached Metz after a 40 mins. flight. He then intended to fly back to Treves in order to repeat the performance, but the wind compelled him to abandon this project. Late in the evening Capt. Engelhardt succeeded in making the journey without any untoward incident. The next day Haas set out, but, as we have already mentioned, met his death through his machine falling to the ground.

The prize of £1,000 was awarded to Jeannin, while the second prize of £200 was divided between Thelen and Engelhardt.

Flying Over the French Frontier.

CONSIDERABLE excitement was aroused at Nancy on Friday last, when Capt. Engelhardt, the German officer who has been so successful in flying German Wright biplanes, after his two hours' trip from Treves to Metz, continued his air-journey, ultimately landing at Nancy. In spite of all the talk there has been with regard to giving foreign aviators a hostile reception, Capt. Engelhardt was warmly welcomed, and cheerfully paid a bill for £5 customs duties which was demanded, and which it was stated would be refunded when the aeroplane once more crossed the frontier. Capt. Engelhardt intended to fly back again to Metz, but in rising from the ground his machine came into collision with an obstacle, and was damaged so much that he decided it should be sent back by train.

Flying Across the Danube.

VERY little has been heard with regard to aviation in Roumania, but on Tuesday week Prince Valentin Bibesco made a noteworthy performance by crossing the Danube on his Blériot machine. The crossing occupied about 5 minutes, and during the trip a height of 300 metres was attained.

Austrian Military Flyer's Success.

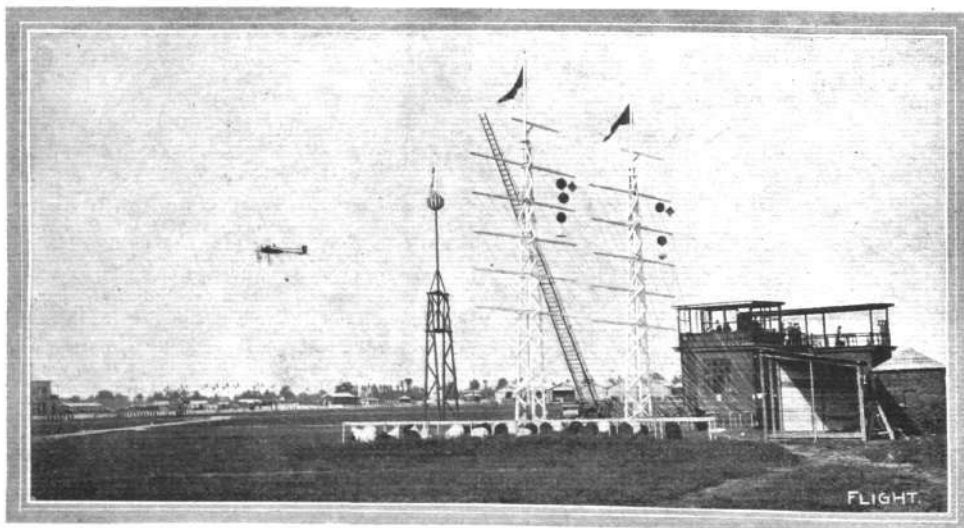
USING a Voisin biplane, Lieut. Stohanzl on the 28th ult. secured the honour of being the first Austrian officer to make a town to town flight in Austria. He started from Wiener Neustadt with the intention of paying a visit to the School of Artillery at Traiskirchen, 25 kiloms. away. Although he ran into a shower of rain, and found the wind troublesome, the officer succeeded in reaching his destination after a flight of 20 mins. He was prevented from landing on the parade ground owing to some military operations being in progress, and he therefore continued his flight, eventually landing in a meadow just by the town. After replenishing his fuel and oil-tanks, he started up the engine with the intention of flying back to Vienna, but owing to the rising wind found difficulty in getting away. He therefore had to postpone the departure until the following morning, when the return journey was successfully accomplished in 17 mins.

CONTINENTAL FLIGHT MEETINGS.

Milan Flying Meeting.

THE Milan meeting was unfortunate in that not only was the opening clouded by the lamentable death of Chavez, but after a very successful week the closing day was marred by a collision between Thomas, on an Antoinette machine, and Capt. Dickson, on his Henry Farman biplane. Capt. Dickson during the week

had been very popular because of his splendid gliding flights from high altitudes, and on Sunday afternoon, after a glide downwards, he was once more rising when Thomas, who had been flying very high and very fast, commenced to plane down at a fast speed. He was unable to see Capt. Dickson, and also the noise of his own motor drowned that of the British airman, and to the horror of the spectators



MILAN MEETING.—General view of the aviation grounds, showing the timekeeper's box, signalling arrangements, hangars, &c. A Blériot is in flight round the course.



The King of Italy congratulating Capt. Dickson, at Milan Meeting, upon his splendid flying achievements.

the Antoinette monoplane crashed on to the biplane, both machines falling to earth a mass of broken planes and tangled wires. Thomas escaped serious injury, but Capt. Dickson was not so fortunate. He sustained grave internal injuries, and it was at first feared that he would not recover. Later reports from Milan, however, indicate that there is now hope that he will pull round, and we know that all our readers will join with us in expressing sympathy for this daring and distinguished British aviator, and hope that it will not be long before he completely recovers from the effects of his accident and is once more amongst us.

Wednesday was the special day at the aerodrome, for then King Victor Emanuel, accompanied by the Count de Turin, paid a visit to the scene of operations, the Count making a short flight with Signor Ruggerone. After he had landed from this flight the Count was standing talking to the aviator in front of the sheds when Simon started up on his Blériot monoplane. For some reason he did not perceive the group of persons, but hearing a great shout, they fell flat on the ground, only just in time to allow the monoplane to pass over them in the act of rising. During the week, not unnaturally, Cattaneo has been a popular hero on his Blériot. The Italian has mainly indulged in high flying, each day attaining a height in the neighbourhood of 1,500 metres. For speed Aubrun and Simon have shared the prizes, while for the total distance prize each day the keenest competition has been between Thomas and Fischer, who was at the wheel of a Henry Farman machine. Thomas made several flights

during the week of over a hundred kiloms. On the occasion of the visit of the King of Italy he was flying for 112 kiloms., while Fischer made a flight of 110 kiloms. Other notable performers were Weymann on a Henry Farman, Cagno on a Farman, Bregi on a Voisin, and Legagneux on a Blériot.

Flying over the Pyrenees.

IN connection with the flying meeting arranged at San Sebastian by the Royal Aero Club of Spain, a prize was offered for a flight



King Alfonso of Spain (in centre) takes intense interest in the Blériot of M. Morane at San Sebastian.

across the Pyrenees from Biarritz to San Sebastian, and this task was not only accomplished by Mons. Tabuteau but he also succeeded in making the return journey. Leaving the aerodrome at Bayonne on the afternoon of the 28th ult., he passed over Biarritz at 4.35, and landed in San Sebastian 35 mins. later, the distance being about 45 kiloms. The aviator brought his Maurice Farman machine to rest practically in front of the Royal box, and he was complimented by the King and Queen of Spain. On Monday Tabuteau left San Sebastian about 5 o'clock, and although he had to make his way against a strong wind he succeeded in reaching Biarritz, and landed on the Bayonne Aerodrome after a trip which had lasted 65 mins., the greater part of it being over the sea.

The San Sebastian Meeting.

AT the three days flying meeting which opened at San Sebastian on Sept. 27th, Morane was the star performer. On the opening day before the King of Spain, he made several flights of a total duration of 25 mins., and afterwards had the honour of explaining his Blériot monoplane to King Alfonso. On the following day he made four flights of a little over half an hour's duration when the proceedings were enlivened by the arrival of Tabuteau from Biarritz. After landing and adjusting his machine he made two other flights of a total duration of 17 mins. On the 29th, Morane made three flights as also did Tabuteau, while Loygorry, a Spanish aviator, made two trips, each of these aviators being in the air for about 25 mins. Competing for the height prize, which he easily won, Morane reached an altitude of 800 metres. Subsequently King Alfonso conferred on both Morane and Tabuteau the cross of the Order of Carlos III.

BALLOON NEWS.

A Long Balloon Journey.

FROM Russia comes the news that Col. Odenoff has succeeded in covering a distance of 2,132 kiloms. in 40 hours in his balloon. The previous world's record for distance was 1,925 kiloms., accomplished by Count De la Vaulx, but the record for duration is held by the Swiss Col. Schaeck, who kept aloft for 73 hours.

A Drop of 7,000 Feet.

VERY exciting was the adventure which befell the party of four which ascended in the balloon "Continental No. 1" on Sunday morning. Leaving South London behind, the balloon was piloted across the Metropolis over Edmonton at an altitude of 9,000 ft. In order to reduce the altitude the valve was released and the balloon dropped for some distance. A little while afterwards this operation was repeated, but on the valve being operated for the third time it failed to close properly, and the gas continued to rapidly escape. By this time the balloon was over Koydon, Essex, and it fell a distance of about 7,000 ft. in an unpleasantly short time. All the occupants of the car sustained injuries, Mr. H. D. Kerr, of the Continental Tyre Co., being worst off with a sprained spine, the pilot injuring his ankle, Mdle. Janette Denardier being severely bruised, while the fourth passenger, Mr. Wilmer, was much shaken and sustained severe contusions.

It is only fair to point out that the accident was in no way due to the Continental material of which the balloon was constructed, but through some unforeseen circumstances the valve at the top of the balloon was entirely pulled out, and this it was that caused the gas to escape so rapidly.

CORRESPONDENCE.

* * The name and address of the writer (not necessarily for publication) MUST in all cases accompany letters intended for insertion, or containing queries.

Correspondents communicating with regard to letters which they have read in **FLIGHT**, would much facilitate ready reference by quoting the number of each such letter.

NOTE.—Owing to the great mass of valuable and interesting correspondence which we receive, immediate publication is impossible, but each letter will appear practically in sequence and at the earliest possible moment.

AEROPLANES AND YACHTS.

[794] I have read with much interest your reply to Mr. Sherrin's question. Might I make one remark? You show Mr. Sherrin that there is not the same condition of things with the sail of a yacht as with an inclined aeroplane, and, therefore, that a broadside aspect to a sail is not essential.

If you study the sail of a modern (small) racing boat, you will see that the sail does enter the wind with a broadside aspect, and also that the sail is in effect rectangular; it is, in fact, exactly the same shape as the deck of an aeroplane.

The yard of the sail is practically a continuation of the mast, thus making the sail of the shape depicted in Fig. 1.

If the sail was actually of the shape indicated in Fig. 2, the upper part would cause the boat to heel over (owing to its greater leverage), and so the lower part of the sail would not be working at its

ratio from being used (I doubt if it ever reaches more than 1.75 to 1).

There must be a certain area of sail to propel the boat, and if the sail is very narrow it must, therefore, be very tall, and the boat will require a great deal of ballast. There are other disadvantages which will occur to everyone, which I need not enumerate.

Hoping that I have made my arguments clear.

Brighton.

GILBERT GRÜN.

SCIENTIFIC TESTS BY THE AERONAUTICAL SOCIETY OF GREAT BRITAIN.

[795] The Laboratory Committee of the Aeronautical Society of Great Britain are now conducting a series of tests on the various component parts of aeroplanes. Experiments are in progress on the air resistance of bars, struts, stay-wires, and the like, and the Committee would be much obliged if aeroplane manufacturers would furnish them with such parts as they employ in their machines. Specimens, for which due acknowledgment will be made, should be sent to the East London College (University of London), Mile End Road, E., where some of the tests are being carried out. Full results of the experiments will be published in the interests of aeronautical science.

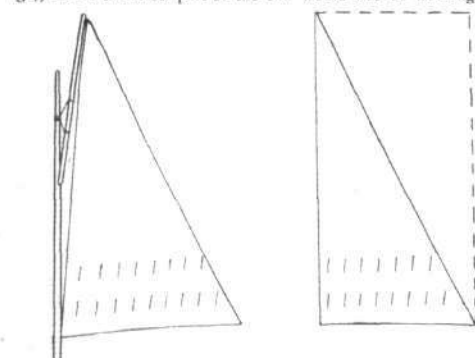
WALTER F. REID, Chairman of
the Laboratory Committee.
T. O'B. HUBBARD, Secretary.

September 30th.

STABILITY AND ACCIDENTS.

[796] May I suggest through your columns what I believe to be the cause of the accident to M. Chavez. A curved plane is designed to balance at a certain speed; when that speed is largely exceeded comparatively low pressure occurs on the under surface for some way behind the leading edge, and the centre of vertical upward pressure goes farther back, tending to dip the machine, i.e., to decrease the angle of incidence of the planes relative to the air current. Should the leading edge then enter a slightly downward current very little force is needed to destroy equilibrium and make the machine dive headlong. If an elevating headplane be used, the very act of tilting up the elevator to lift the machine when entering a downward current would, for the instant, tend to accentuate such a dip.

With rigid curved planes, if the speed for which the curves are designed be greatly exceeded, it is necessary to shorten the extent of the planes to the rear, so that the centre of upward pressure will not go so far back; but this can only be done within small limits. In descending at very high speeds, if this be not done, the danger is very great that equilibrium may be lost at the moment of entering a current that is downward relative to the line of flight, i.e., any gust in a horizontal or approximately horizontal direction.



maximum efficiency. (It would be inclined at too great an angle to the wind.) It is obvious that to avoid this the sail must be made so that the total pressure multiplied by the distance from the fulcrum or point about which the boat heels, must be the same at any height up the sail, i.e., the sail must be triangular.

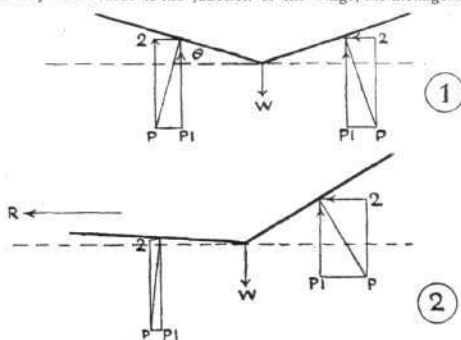
It is quite evident that several things prevent a very large aspect

I shall be glad to give a more detailed explanation, with drawings, to anyone engaged in constructing flying machines.
Ilchester.

H. D. CAREY.

DIHEDRAL ANGLE.

[797] Being very interested in the discussion *re* the dihedral angle, with your permission I should like to throw more light on the matter. The air exerts a pressure, P , mainly normal to the surface, which by the resolution of forces is equivalent to the two components, P^1 and Q , acting vertically and horizontally respectively. When the machine is in stable flight, the forces on either plane are equal to one another, each to each, as shown in Fig. 1, but in the event of the angle, θ , diminishing, as seen in Fig. 2, the vertical component, P^1 , on the lower plane becomes greater than P^1 on the higher plane, tending to right the machine. Also it is seen that the component, Q , acting horizontally on the latter, is greater than Q acting on the former, and it is this excess of pressure that causes the machine to drift in the direction, R . It seems to me that a machine having its wings set at a dihedral angle would experience considerable difficulty in turning corners. With the centres of pressure of either wing situated at P , and the weight, W , acting vertically downwards at the junction of the wings, the arrangement



appears to be equivalent to a machine having its wings in one plane and the centre of gravity situated at some distance below the centre of pressure. The machine would then be in complete accord with the laws of pendulum, and as in turning the machine cants over to the inner side of the curve, the weight, W , is continually tending to restore the machine to its horizontal position, thus hindering the turning movement. If the theory is correct, an aeroplane such as the R.E.P., *i.e.*, having the c.g. above the c.p., would be able to take a sharp turn with ease. Being only an aspiring amateur, I shall be only too pleased if someone more experienced in matters aeronautical than myself will step in to correct me if my theory proves to be wrong.
Coventry.

"ASPIRING."

PARACHUTES FOR PILOTS.

[798] Is it not possible, with a view to the prevention of fatal accidents, for an airman to have some kind of parachute attachment which could be made to work in the event of a fall? This might be possible in a monoplane where the pilot has no obstructions above him, and when an accident occurs at a great height he might have time to get the appliance to work.

"CAUTIOUS."

[The idea of providing pilots with parachutes as a possible source of safety in the event of a mid-air calamity does not commend itself to us, because, in our opinion, the aeroplane itself is inherently the safest form of parachute that the pilot or his passenger can have, and they had much better trust their lives to it up to the last than to abandon their posts, and rely upon an apparatus that might quite as easily fail them in an emergency. We are very strongly of the view that there is no justification for any mishap in mid-air that is brought about by the structural failure of the machine, for we contend that manufacturers simply must build aeroplanes strong enough to withstand any stress put upon them in flight. It is a fact, now well demonstrated, that the stoppage of the engine is a contingency that a good pilot is prepared for, and it will not of itself be the direct cause of disaster. The aeroplane is a natural glider if properly handled.]

There remains, of course, the other source of danger that lies in the inexperience of the pilot himself, which could never be properly set off by the addition of a parachute. Assuming that the pilot is a master of his art, and has been flying sufficiently high, we believe

that he should be capable of making a gliding descent under any contingency that does not involve the fracture of some essential member of the machine. It may be, of course, that he will be unable to select a landing place that will give a perfectly safe descent, but, on the whole, the chances are in his favour, and we think that a wider recognition of the necessity of being able to land on rough ground will lead to the construction of more machines with skids, or other suitable devices, that will very largely minimise the entirely unnecessary risk that a pilot now runs when he is unable to land on smooth turf.—Ed.]

BUOYANT AEROPLANES.

[799] Being a regular reader of your valuable paper, I take the liberty to write you, asking your opinion with regard to an aeroplane I am thinking of constructing. The idea is a combination of the dirigible and aeroplane, each wing of the machine made like a Bleriot, only double-surfaced, the interior between the upper and lower skin to be formed into cells into which hydrogen is forced. This method would give you all the lift of an ordinary dirigible, and yet do away with the great head resistance caused by the gas-bag. By this means I think that it is possible to make a machine about one-half the span of the ordinary machine capable of lifting the same weight; and because the cutting edge is reduced by about half, the power required to force the machine through the air could not be much more than 4 or 5 h.p. The gas required would be just sufficient to bear the weight of the machine and motor, or if more, it could be easily ballasted down to get the proper lift. The advantage of building the wings up in cells would be, in case of an accident, there would be a chance of not losing all the buoyancy at the same time as if the wing was simply hollow and filled in one compartment. This idea would not cause any great alteration of the shape of the present type of wing, as it could still be made in stream-line form. I am sorry to encroach on your valuable time, but I should be pleased to hear the opinion of yourself and readers who may be interested. Also kindly let me know if this idea is new, or has it been tried before? and, if so, with what success.
Llandrindod Wells.

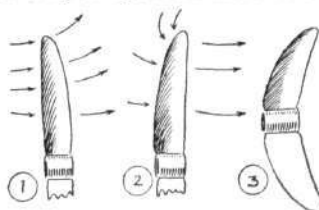
M. BAKER.

[The idea of filling the wings of an aeroplane with gas lighter than air has been frequently advocated, but we suggest that our correspondent makes a very simple little calculation in order to see how far the internal capacity of the wings of an ordinary aeroplane goes to meet the volume of gas required for its support. As a basis of calculation we would suggest that the load to be lifted is reckoned at 1,000 lbs., and for the purpose of approximation it may be assumed that hydrogen will lift 74 lbs. per 1,000 cub. ft. If the machine is to be buoyant about 13,600 cub. ft. of gas will be required.—Ed.]

CHAUVIERE PROPELLER.

[800] Experiments have shown that a curved leading edge and a straight trailing edge give a more concentrated slip stream than a straight leading edge and a curved trailing edge. Most marine propellers have blades sloping backwards giving a still more concentrated slip stream.

By means of a lighted taper I found that air was drawn in from



the sides as well as the leading edge in the Chauviere type, but not in its opposite.

This rather points to air being thrown off and drawn in in a tangential way.

Newcastle.

C. IAN BURRELL.

BRAKES ON AEROPLANES.

[801] Replying to letter No. 746 in FLIGHT, from Mr. A. G. Pugh, Bootle, *re* brakes for aeroplanes, I see no reason why brakes should not be fitted to wheels of aeroplanes.

I myself have an idea for one, and am at present experimenting with it on a model. It he looks at the constructional details of the new Curtiss biplane, published by you recently, he will see the foot brake used on that machine.

Glasgow.

AMATEUR.

